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PERUVIAN SNAKES FROM THE UNIVERSITY
OF AREQUIPA

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A considerable collection of snakes and of some other reptiles and amphibians in the collection of the University of Arequipa, at Arequipa, Peru, was lent to the senior author in 1939 through the courtesy of Dr. Corzo Masias, of the Department of Zoology, and at the suggestion also of Dr. Carlos Nicholson, Professor of Biogeography at the university. This material, all unidentified, was partly without data as to locality; but a series of specimens from the faunally little-known Department of Madre de Dios gives it sufficient importance to warrant publication of a list of the forty-seven species of snakes in the collection. Two species are described as new. Much of this collection was assembled through the efforts of the late Dr. Edmundo Escomel, long resident in Arequipa.

The specimens without data are undoubtedly all from Peru, and most of them are probably from the Department of Madre de Dios. The remaining material comes from the following localities or regions:

- Chanchamayo: A tropical lowland locality at the headwaters of the Rio Perené in the Department of Junín.
- Montaña: A term used for the forested tropical lowlands of eastern Peru.
- Madre de Dios: A department of Peru, much of it a tropical lowland region bordered by mountains on the south.
- Selvas de Sandia: The tropical lowlands below Sandia in the Department of Puno.
- Boundary of Peru and Bolivia: Collections resulting from a boundary survey expedition, departments of Puno and Madre de Dios.

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Arequipa: The vicinity of Arequipa in the Department of Arequipa; a semi-arid region of 7,000 to 8,000 feet elevation, on the Pacific slope.

Vitor Valley: A valley crossing the coastal desert of the Department of Arequipa below Arequipa.

Majes Valley: The long valley to the north of the Vitor Valley, Department of Arequipa.

Tambo: A small town on the Rio Tambo, in the southern part of the Department of Arequipa.

An annotated list of the species in the collection follows.

***Boa hortulana hortulana* Linnaeus**

Boa hortulana Linnaeus, Syst. Nat., 1, p. 216, 1758—America.

Three specimens from Madre de Dios, collected by Sr. Valdivia, agree with the typical subspecies. The midbody scale rows range from 51 to 55. The single male, U.A. No. 124, has ventrals 276; caudals 117. The two females, U.A. Nos. 123 and 126, have ventrals and caudals respectively 282, 113, and 280, 113.

***Helicops polylepis* Günther**

Helicops polylepis Günther, Ann. Mag. Nat. Hist., (3), 7, p. 426, 1861—upper Amazon.

Two female specimens, U.A. Nos. 127 and 133, collected by Sr. Valdivia in Madre de Dios, have the dorsal scale formulae 23-23-19 and 23-23-17; ventrals 123, 128; caudals 73, 72. They agree well with the usual description of this species except that in No. 127 the rostral is separated from the internasal by a contact of the nasals behind it. In No. 133 the scales of the occiput and outer row are not keeled, but this may be owing to poor preservation.

***Drymobius dendrophis* Schlegel**

Herpetodryas dendrophis Schlegel, Phys. Serp., 2, p. 196, 1837—Cayenne.

Drymobius dendrophis Cope, Proc. Acad. Nat. Sci. Phila., p. 561, 1860.

A female specimen, U.A. No. 79, from the Escomel Collection, but without other data, agrees very well with the definition of this form. It has ventrals 162, tail incomplete; olive above with black-edged narrow white crossbands. This specimen extends the range of the species south from Ecuador into Peru.

***Dryadophis boddaertii boddaertii* Sentzen**

Coluber boddaertii Sentzen, Meyer's Zool. Arch., 2, p. 59, 1796—type locality unknown.

Dryadophis boddaertii boddaertii Stuart, Mus. Zool. Univ. Mich., Misc. Publ., 48, p. 66, 1941.

A single male specimen, U.A. No. 174, without data, and two females, U.A. Nos. 107a and 120, from Chanchamayo, collected by Coronel Zapata. The two females, which are adult and agree well with the typical subspecies, have ventrals 192, 196, and caudals 108, 112, respectively. The male, a juvenile specimen, has ventrals 185 and caudals 118. Its coloration resembles that given for adults of *pulchriceps* (Stuart, 1941, p. 51). Stuart (l.c., p. 32) regards this as the primitive pattern for the group, and accordingly to be expected in the young of the more specialized forms.

Drymarchon corais corais Boie

Coluber corais Boie, Isis, p. 537, 1827—America.

Drymarchon corais corais Barbour and Noble, Proc. U. S. Nat. Mus., 58, p. 617, 1921.

One female specimen, U.A. No. 155, without data, agrees with the typical subspecies. The ventrals are 216, the caudals 77, with the first fourteen entire. This specimen, a juvenile individual, has the scales slightly oblique and is marked with crossbands.

Chironius carinatus Linnaeus

Coluber carinatus Linnaeus, Syst. Nat., 1, p. 223, 1758—"Indiis."

Chironius carinatus Fitzinger, Neue Classif. Rept., p. 60, 1826.

Chanchamayo, U.A. No. 103, Coronel Zapata; Madre de Dios, U.A. No. 72, Sr. Juan Perea, and U.A. No. 129, Sr. Valdivia; Selvas de Sandia, U.A. No. 27; Peru (without other data), U.A. Nos. 129, 161, 167, 169.

The dorsal formula is 12-12-8 in all except No. 129, in which it is 12-12-10. The ventrals range from 141 to 153 in males and from 145 to 156 in females; the caudals 133 to 135 in males and 128 to 134 in females. The supralabials are 9, the fourth, fifth and sixth entering the eye. The infralabials are 10 in male and 11 in female specimens. Oculars 1-2, and temporals 1-2.

The series is variable in coloration. Some specimens are uniform olive or brown above and below, while others are marked above with white spots that merge in narrow crossbands. All types are possible within the range of variation as described by Boulenger (1894, p. 73), but in our opinion his concept of the species is composite.

Chironius multiventris sp. nov.

Type from the Department of Madre de Dios, Peru. No. 38250 Field Museum of Natural History. Female, collected by Sr. Valdivia.

Range.—Tropical lowland regions of eastern Peru.

Diagnosis.—A *Chironius* closely allied to *carinatus*, but differing in having ventrals 178 to 183 and caudals 172 to 202 as opposed to previous maxima (known to us) for Peruvian *carinatus* of ventrals 156 and caudals 135. The dorsal scale formula of 12-12-10 further separates it from *carinatus*, which normally has 12-12-8. The infralabials in these two females are 10-10 and 10-11, as opposed to 11 for the females of *carinatus*. In coloration this species is closely allied to *carinatus*.

Description of type.—Body elongate, strongly compressed; tail long; head slightly elongate, wider than the body.

Rostral broader than deep, just visible from above; internasals slightly smaller than the prefrontals; frontal two-thirds to three-fourths as broad as long, slightly longer than its distance from the end of the snout, slightly shorter than the parietals; supraoculars large; nostril large; loreal longer than deep; 1 preocular on the right side, 2 on the left; 2 postoculars; 9 supralabials with the fourth, fifth and sixth entering the eye; 10 infralabials on the right side, 11 on the left; temporals 1-2.

Scales of uppermost pair of vertebral rows weakly keeled, at least posteriorly, rest smooth, lateral scales oblique; dorsal formula 12-12-10; ventrals 183; anal divided; caudals 172.

The anterior part of the body is olive above, giving way to light brown posteriorly. A narrow, whitish, black-edged, vertebral stripe (yellow in life?) gradually develops on the neck and disappears posteriorly. Beginning slightly anterior to midbody, the ground color is broken at intervals of three or four scales by narrow whitish crossbands about one scale wide, bordered by dark brown, and gradually disappearing in the tail. The supralabials and the under side of the body are yellowish. The ground color encroaches on the edge of the ventrals, which are bordered by a dark line anteriorly. This is still more distinct in the caudals. The posterior part of the lower surface of the body has a median dark streak to the anus.

Total length 1,250; tail 490.

Notes on paratype.—The single paratype, U.A. No. 107, from Chanchamayo, not very well preserved, agrees well with the type in scale characters. The nostril is large, between two nasals, as is

probably the case in the type, in which the condition is somewhat obscure; 1 preocular on each side; 10 infralabials on each side; temporals 1-1; ventrals 178; caudals 202.

In coloration, the paratype agrees fairly well with the type, for it has the light crossbands and vertebral stripe. The ground color, however, is uniform olive throughout, and the lateral scales of the dark areas are bordered on their lower edges with black. This tends to obscure the vertebral stripe. Posteriorly the light crossbands are closer together than on the type, often only two scales apart.

Total length 1,360; tail 560.

Remarks.—*C. multiventris* is close to *carinatus* as re-described by Boulenger (1894, p. 73), and a revision of that composite form may prove it to be a subspecies. *C. multiventris* and *C. carinatus*, however, occur in the same region in Peru, evidently without intergrading.

Chironius fuscus Linnaeus

Coluber fuscus Linnaeus, Syst. Nat., 1, p. 222, 1758—Asia, in error.

Chironius fuscus Amaral, Mem. Inst. Butantan, 4, p. 84, 1930.

One male specimen, U.A. No. 76, without data, has the dorsal scale formula 10-10-8; ventrals 156; caudals 118. It is a green snake that fits type B of Boulenger (1894, p. 76), or *viridis* Duméril and Bibron. In our opinion *fuscus*, as redescribed by Boulenger, is also a composite species.

Leptophis occidentalis nigromarginatus Günther

Ahaetulla nigromarginatus Günther, Ann. Mag. Nat. Hist., (3), 8, p. 28, 1866—upper Amazon.

Leptophis occidentalis nigromarginatus Amaral, Mem. Inst. Butantan, 4, p. 85, 1930.

Madre de Dios, U.A. Nos. 130, 136, Sr. Valdivia; montaña, U.A. No. 34, Sr. Juan Perea.

Dromicus chamissonis Wiegmann

Coronella chamissonis Wiegmann, Nova Acta Acad. Caes.-Leop. Carol., 17, p. 246, 1835—Tollo, Chile.

Dromicus chamissonis Steindachner, Reise der Novara, Rept., p. 65, 1867.

Eight specimens: Arequipa, U.A. No. 38; Madre de Dios, U.A. Nos. 65, 139, 141, Sr. Valdivia; Selvas de Sandia, U.A. No. 15,

Alberto Zimmermann; Tambo, U.A. No. 11; Vitor Valley, U.A. 10; Peru (without other data), U.A. No. 85, Escomel Collection.

The ventrals range from 195 to 204 in the males, and from 205 to 220 in the females; the caudals range from 111 to 125 in the males, and from 102 to 112 in the females. These specimens from Peru are certainly not the Chilian *chamissonis* of Wiegmann, being very distinct in coloration. Further study of these specimens is reserved for a report on the coastal fauna of Peru, in progress.

The three specimens said to be from the Madre de Dios region are indistinguishable from the coastal form in squamation, coloration, dentition, and penial characters. It is possible that they have been mislabeled.

Leimadophis reginae Linnaeus

Coluber reginae Linnaeus, Syst. Nat., 1, p. 219, 1758—"Indiis."

Leimadophis reginae Amaral, Proc. U. S. Nat. Mus., 67, Art. 24, p. 5, 1925.

Boundary of Peru and Bolivia, U.A. No. 18, Dr. Valdez; Chanchamayo, U.A. No. 104, Coronel Zapata; Madre de Dios, U.A. Nos. 58 (head only), 60, 62, 122, Sr. Valdivia; montaña, U.A. No. 30; no data, U.A. No. 176.

The ventrals are 148 and 149 respectively in the two males; tail incomplete in both. In the six females the ventrals range from 146 to 158; and the caudals from 64 to 74 in the three with complete tails. These specimens agree in coloration with typical representatives of the species, and exhibit the normal change of color pattern from young to adult.

Lygophis taeniurus taeniurus Tschudi

Liophis taeniurus Tschudi, Fauna Peruana, Herp., p. 51, pl. 5, 1845—forest region of Peru.

Lygophis taeniurus taeniurus Amaral, Mem. Inst. Butantan, 4, p. 20, 1930.

One adult female specimen, U.A. No. 157, without data, agrees with the typical subspecies, with 163 ventrals and 54 caudals. A second juvenile specimen, U.A. No. 57, from the Department of Madre de Dios, is too fragmentary to yield a scale count. It is best referred to this subspecies, but lacks the characteristic dark longitudinal lines on the posterior part of the body and tail.

Xenodon severus Linnaeus

Coluber severus Linnaeus, Syst. Nat., 1, p. 219, 1758—Asia, in error.

Xenodon severus Schlegel, Phys. Serp., 2, p. 83, 1837.

Boundary of Peru and Bolivia, U.A. Nos. 16, 17, Dr. Valdez; Chanchamayo, U.A. No. 109, Coronel Zapata; Madre de Dios, U.A. No. 140, Sr. Valdivia; no data, U.A. No. 173.

The four males have ventrals 127–139; caudals 37–41. The single female has ventrals 136; tail incomplete. This series agrees very well with available descriptions in coloration. There are 9–2 to 10–2 dark crossbands evident in all, but these are obscured in No. 109, a half-grown individual. The remaining specimens are juvenile; the abdomens in Nos. 16 and 17 are still full of yolk.

***Liophis cobella cobella* Linnaeus**

Coluber cobella Linnaeus, Syst. Nat., 1, p. 218, 1758—America.

Liophis cobella cobella Amaral, Bull. Antiven. Inst. Amer., 4, p. 87, 1931.

One male specimen, U.A. No. 170, without data, has ventrals 142 and caudals 52. This specimen has 39 + 15 black annuli, very narrowly separated by yellow annuli that widen laterally and ventrally. On the posterior dorsal part of the body these yellow annuli disappear. In coloration and low ventral count the specimen thus approaches *alticolus* of Amaral (1931, p. 87). It has been compared with topotypes of *alticolus*, and found to differ in not having a whitish-pink belly, and in having a differently shaped head and infralabials. In these last two respects it agrees with the typical subspecies, to which it has been tentatively referred. Eventually it may prove to be a distinct southern race.

This appears to be the first record of the species from Peru.

***Liophis purpurans* Duméril and Bibron**

Ablabes purpurans Duméril and Bibron, Erp. Gén., 7, p. 312, 1854—Mana, Cayenne.

Liophis purpurans Günther, Ann. Mag. Nat. Hist., (4), 9, p. 19, 1872.

Two male specimens, U.A. Nos. 165 and 172, without data, agree with the definition of this species. The ventrals are 145, 151, and caudals 73, 69, respectively.

***Atractus badius* Boie**

Brachyorrhos badius Boie, Isis, p. 540, 1827—Java (in error).

Atractus badius Boulenger, Cat. Snakes Brit. Mus., 2, p. 308, 1894.

Chanchamayo, U.A. No. 113, Coronel Zapata; Madre de Dios, U.A. No. 64; montaña, U.A. No. 31, Juan Perea.

The ventrals and caudals of the two male specimens are respectively 144, 34, and 148, 33. The female specimen is fragmentary;

it has 23 caudals. In coloration Nos. 31 and 64 have the belly spotted and agree with Boulenger's type E (1894, p. 309). No. 113 is plainly his type C.

Atractus emmeli Boettger

Geophis emmeli Boettger, Ber. Senck. Ges., 1888, p. 192, fig., 1888—Mapiri River, Bolivia.

Atractus emmeli Boulenger, Cat. Snakes Brit. Mus., 2, p. 311, 1894.

One female specimen, U.A. No. 73, from the Escomel Collection, has no specific data. The ventrals are 188; the caudals 22. This specimen agrees with the original description in scaling except for the higher ventral count. It may be suspected that Boettger's specimens were males. The ventral color pattern agrees with that described by Boettger, but dorsally our specimen is much more distinctly dark-spotted. To our knowledge this is the first record from Peru.

Atractus vertebralis Boulenger

Atractus vertebralis Boulenger, Ann. Mag. Nat. Hist., (7), 13, p. 451, 1904—Santo Domingo, Carabaya, Peruvian Andes.

Two specimens with no data agree with Boulenger's description. The male, U.A. No. 148, has ventrals 170 and caudals 32. The female, U.A. No. 145, has ventrals 175 and caudals 24.

Geophis diplozeugus sp. nov.

Type from the Department of Madre de Dios, Peru. No. 40251 Field Museum of Natural History. Adult female, collected by Sr. Valdivia.

Diagnosis.—Allied to the Brazilian *Geophis poeppigi* Jan in color pattern, dorsal and ventral scale count, and other scale characters. Differing in having two temporals on each side, and a single preocular (or loreal entering the eye) about as high as long, instead of the elongate loreal of *poeppigi*; and probably in having the black rings around the body more distinct.

Description of type.—Head not wider than body, bluntly pointed; eye about equal to its distance from the labial border; body sub-cylindrical, tail short.

Rostral large, broader than deep, the portion visible from above about equal to the internasal suture; internasals about half as long as the prefrontals; frontal slightly broader than long, a little shorter than its distance from the end of the snout; parietals long and

with a re-entrant angle posteriorly; nasals large, completely divided, followed by a five-sided preocular which is higher than wide, and thus sharply different from the "loreal entering the eye" of *poepigii*; a single postocular; upper labials 6, third and fourth entering the eye, the fifth much the largest and broadly in contact with the parietal; 2 temporals on each side above the sixth labial; lower labials 7; a single large pair of chin shields; widened ventrals beginning immediately behind the chin shields.

Ventrals 169; anal single; caudals 24.

General coloration dark brown above, pale yellowish beneath, with black transverse bars covering about three ventrals anteriorly and one or two posteriorly; these number 24 on the body and two on the tail. When attentively examined it is seen that these bars are widened and continued faintly in the dorsal coloration, and that posteriorly they are in tetrads, which in turn are composed of two pairs of rings. Anteriorly the arrangement in tetrads may be discerned on the sides, each of the widened bars having a light lateral spot, so that the wider ventral bar is thus apparently composed of a pair of fused bars. Individual scales black-spotted in the obscure light crossbands of the sides and back. A narrow nuchal crossband on the ends of the parietals, widening on the sides of the head; tip of snout light, including rostral, part of the internasals, and first and second labials.

Total length 430; tail 34.

Notes on paratype.—The single juvenile male paratype, U.A. No. 166, accordingly the allotype, unfortunately has no data. There can be little doubt that it came also from the Madre de Dios region. It has ventrals 162 and caudals 30, a normal sexual difference; it agrees excellently with the type in general scale characters. The posterior nasal is fused with the preocular on one side.

The coloration is more sharply defined. The first pair of black bands on the neck exhibit no division, but the next pair of bands is obscurely divided into four, and beyond this each major band is seen to be composed of two pairs of bands, widened above and tending to fuse on the back; there are ten such major "rings," with one and one-half on the tail.

Length 169; tail 17.

Remarks.—There appears to be no record of *Geophis poepigii* other than the type, and we may be in error in our assumption that our new form is directly allied to this species. There is no inherent

difficulty in deriving the *poepigii* color pattern from that above described. Amaral (1931, p. 87) describes *Atractus elaps tetrazonus*, from Colombia, without mention of the temporal shields. The coloration described is remarkably similar to that of *diplozeugus*; but even if Amaral overlooked the absence of the anterior temporal, as is quite unlikely, the ventral count differs significantly from that of our Peruvian species, as a second Colombian specimen referred to *tetrazonus* by Amaral (1932, p. 113) has 142 ventrals, while the original specimen had 150. *Geophis ruthveni* Werner (1925, p. 60), the only other South American species of *Geophis* (as defined by the temporal character), has 126 ventrals and an entirely different coloration.

Dipsas catesbyi Sentzen

Coluber catesbyi Sentzen, Meyer's Zool. Arch., 2, p. 66, 1796—type locality unknown.

Dipsas catesbaei Boie, Isis, p. 550, 1827.

Chanchamayo, U.A. Nos. 105, 115, 118, Coronel Zapata; Department of Madre de Dios, U.A. No. 144, Sr. Valdivia; montaña, U.A. No. 33, Sr. Juan Perea; Peru (without other data), U.A. Nos. 74, 80, 86, 95, 97, 146, 159, Escomel Collection.

This series, while showing considerable variation in labials and coloration, agrees well with the customary definition of *catesbyi*. The eight males have ventrals 181–197, caudals 88–105; four females 177–186 and 84–92.

Dipsas indica Laurenti

Dipsas indica Laurenti, Syn. Rept., p. 90, 1768—Zeylona, in error.

One male specimen, U.A. No. 114, collected by Coronel Zapata in Chanchamayo, has the dorsal scale formula 13–12–11; ventrals 209; caudals 111.

It agrees with Boulenger's definition of this species except for having 12 midbody scale rows. This is due to an abnormal loss of a row on the right side of the body. Slightly anterior to midbody there are 13 rows.

Dipsas mikanii peruanus Boettger

Leplognathus peruanus Boettger, Kat. Rept. Mus. Senck., 2, p. 128, 1898—Santa Ana, Cuzco, Peru.

One female specimen, U.A. No. 132, collected by Sr. Valdivia in Madre de Dios, agrees very well with this race except for having a

preocular and loreal entering the eye anteriorly instead of the more normal condition of the prefrontal and loreal. Ventrals 192; caudals 95.

A second specimen, U.A. No. 160, a juvenile male, without specific data, is presumably also from Madre de Dios. It agrees with the above specimen in squamation with the expected sex differences: ventrals 196; caudals 99. The vertebral row of scales is a little more expanded, but these scales are still less than twice as broad as long. In coloration, however, this specimen is quite different, for the light-colored areas between the dark crossbands are not flecked with brown, but are completely white. Similarly the ventral surface is not flecked with brown and marked with large brown spots, but is white, faintly marked with pairs of longitudinal brown streaks. This may be due to fading or to juvenile coloration. More material of the genus *Dipsas* is needed for the revisionary study that is obviously required.

Imantodes cenchoa Linnaeus

Coluber cenchoa Linnaeus, Syst. Nat., 1, p. 226, 1758—America.

Imantodes cenchoa Duméril and Bibron, Erp. Gén., 7, p. 1065, 1854.

Madre de Dios, U.A. No. 8; montaña, U.A. No. 32, Sr. Juan Perea; Peru (without other data), U.A. No. 96, Escomel Collection.

These three specimens agree well with typical representatives of the species. The two males have, respectively, ventrals 263, 265, and caudals 170; tail incomplete. The female has ventrals 258 and caudals 157.

Leptodeira annulata annulata Linnaeus

Coluber annulatus Linnaeus, Syst. Nat., 1, p. 224, 1758—America.

Leptodeira annulata annulata Amaral, Mem. Inst. Butantan, 4, p. 204, 1930.

A female specimen, U.A. No. 112, collected by Coronel Zapata in Chanchamayo, has ventrals 188, caudals 88. There is a second poorly preserved specimen, U.A. No. 117, with the same data, in the collection.

Clelia clelia Daudin

Coluber clelia Daudin, Hist. Nat. Rept., 6, p. 330, pl. 78, 1803—Surinam.

Clelia cloelia Stejneger, Proc. U. S. Nat. Mus., 45, p. 547, 1913.

Two female specimens, U.A. Nos. 28 and 77, appear to be typical. The former, from the montaña, collected by Prudencio Salazar,

has ventrals 201, and tail incomplete. The latter, without data, has ventrals 227, and caudals 72.

Oxyrhopus bitorquatus Günther

Tachymenis bitorquatus Günther, Ann. Mag. Nat. Hist., (4), 9, p. 19, 1872—Peruvian Amazon.

Oxyrhopus bitorquatus Boulenger, Cat. Snakes Brit. Mus., 3, p. 104, 1896.

A female specimen, U.A. No. 75, from the Escomel Collection, but without specific data, has ventrals 193, caudals 87, and 16 + 7 triads of black crossbands.

Oxyrhopus petolus Linnaeus

Coluber petola Linnaeus, Syst. Nat., 1, p. 225, 1758—Africa, in error.

Chanchamayo, U.A. No. 111, Coronel Zapata; Madre de Dios, U.A. Nos. 69, 121, 128, 142, Sr. Valdivia; Peru (without other data), U.A. Nos. 78, 81, 93, 154, 158, Escomel Collection.

The series is variable in coloration and may represent more than one subspecies. Nothing can be done with this problem until the revisionary study of the genus *Oxyrhopus* and its allies by Joseph R. Bailey, which is in progress, becomes available. Nos. 93 and 121 have approximately 22 + 10 yellow crossbands and thus fall between Boulenger's types A and B (1896, p. 102), with ventrals 202, 181, and caudals 66, 72, respectively. Nos. 69, 78, 128, 142, 154, 158 have 14 + 9 to 19 + 9 yellow bands and thus fall directly into Boulenger's type B. The three males have ventrals 197–209, and caudals 104–125. The three females have ventrals 205–210, and caudals 86–97. Finally, Nos. 81 and 111 have no light crossbands, or only traces posteriorly, thus agreeing with Boulenger's type C; ventrals 207, 212, and caudals 92, 100.

Oxyrhopus trigeminus Duméril and Bibron

Oxyrhopus trigeminus Duméril and Bibron, Erp. Gén., 7, p. 1013, 1854—cotypes from Rio de Janeiro and Bahia, Brazil.

A single male specimen, U.A. No. 164, without data, has ventrals 200 and caudals 81 and about 8 + 5 triads of black crossbands, somewhat irregular by being offset on the midline.

Tachymenis peruviana Wiegmann

Tachymenis peruviana Wiegmann, Nova Acta Acad. Caes.-Leop. Carol., 17, p. 252, pl. 20, fig. 1, 1835—Peru.

Trachymenis peruviana Escomel, Fauna de Arequipa, p. 9, 1929.

Arequipa, U.A. Nos. 36, 37, 39, 40; Madre de Dios, U.A. Nos. 61, 68, 70, 71, Sr. Juan Perea; Peru (without other data), U.A. Nos. 87, 89, 90, 92, Escomel Collection.

The characters of this series fall within the range of variation of this widespread and common highland species. In the six males the ventrals vary from 147 to 152; caudals from 46 to 64. In the six females the ventrals range from 141 to 151 and the caudals from 40 to 48.

As far as we know, this species has not been found in Peru below 8,000 feet and is thus apparently confined above the tropical zone. The specimens from the Madre de Dios, essentially a lowland region, therefore seem to present a problem. There is, however, a range of mountains on the southwestern side of that department from which these specimens may well have come, since the species is known to be abundant in the Urubamba and Lake Titicaca valleys.

***Philodryas olfersii* Lichtenstein**

Coluber olfersii Lichtenstein, Verz. Doubl. Mus. Berlin, p. 104, 1818—Brazil.

Philodryas olfersii Günther, Cat. Colubrine Snakes Brit. Mus., p. 124, 1858.

Chanchamayo, U.A. Nos. 108, 119; Madre de Dios, U.A. Nos. 63, 143; Peru (without other data), U.A. Nos. 35, 84, 88; Selvas de Sandia, U.A. No. 26.

There are no differences apparent between Madre de Dios and Chanchamayo specimens. Ventrals in three male specimens range from 176 to 187 and caudals from 117 to 128; in five female specimens these characters vary from 190 to 200 and from 109 to 112.

***Philodryas viridissimus* Linnaeus**

Coluber viridissimus Linnaeus, Syst. Nat., p. 226, 1758—Surinam.

Philodryas viridissimus Günther, Cat. Colubrine Snakes Brit. Mus., p. 123, 1858.

A single male specimen, U.A. No. 134, from Madre de Dios, has ventrals 210, caudals 121, and dorsal scales 19-19-15.

***Oxybelis acuminatus* Wied**

Coluber acuminatus Wied, Isis, p. 667, 1824; Beitr. Naturg. Bras., 1, p. 322, 1825—Espírito Santo River, Brazil.

Oxybelis acuminatus Steindachner, Novara Expedition, Rept., p. 72, 1867.

Two female specimens, U.A. Nos. 110 and 125, are typical *acuminatus*. The former, collected in Chanchamayo by Coronel

Zapata, has ventrals 192; caudals 161. The latter, collected in Madre de Dios by Sr. Valdivia, has ventrals 198, caudals 182.

Oxybelis argenteus Daudin

Coluber argenteus Daudin, Hist. Nat. Rept., 6, p. 336, 1803—type locality unknown.

Oxybelis argenteus Duméril and Bibron, Erp. Gén., 7, p. 815, 1854.

One female specimen, U.A. No. 106, collected in Chanchamayo by Coronel Zapata, agrees with the definition of this form. It has ventrals 211, caudals 170, with a few of the latter missing.

Oxybelis fulgidus Daudin

Coluber fulgidus Daudin, Hist. Nat. Rept., 6, p. 352, pl. 80, 1803—Surinam and Port-au-Prince, Santo Domingo.

Oxybelis fulgidus Duméril and Bibron, Erp. Gén., 7, p. 817, 1854.

The collection contains one incomplete specimen, U.A. No. 150, without data.

Erythrolamprus aesculapii Linnaeus

Coluber aesculapii Linnaeus, Syst. Nat., p. 220, 1758—"Indiis."

Erythrolamprus aesculapii Duméril and Bibron, Erp. Gén., 7, p. 845, 1854.

Three male specimens, U.A. Nos. 83, 116, 152, agree with *aesculapii* as defined by Boulenger (1896, p. 200). Nos. 83 and 152 from the Escomel Collection but without data have ventrals 197 and 191; caudals 50, and missing, respectively. No. 116, collected in Chanchamayo by Coronel Zapata, is much shriveled and was not counted. All have between 9 and 12 double pairs of black annuli on the body and tail. Thus they fit Boulenger's type E (1896, p. 202) or *tetrazona* Jan. Inasmuch as the subspecies of this form have not been clearly defined we feel it best to refer these specimens provisionally to *aesculapii*.

Tantilla marcapatae Boulenger

Homalocranium marcapatae Boulenger, Ann. Mag. Nat. Hist., (7), 10, p. 401, 1902—Marcapata Valley, eastern Peru.

One male specimen, U.A. No. 25, from the Selvas de Sandia, is a very interesting discovery, for this species has hitherto been known only by the female type. This specimen agrees very well with the original description in both squamation and coloration, with the expected sexual differences in ventrals and caudals. These are 164

and 62 respectively as opposed to 180 and 47 in the female type. The red areas between the dark crossbands have faded to white.

Tantilla melanocephala Linnaeus

Coluber melanocephala Linnaeus, Syst. Nat., 1, p. 218, 1758—America.

Tantilla melanocephala Cope, Proc. Acad. Nat. Sci. Phila., p. 74, 1861.

Chanchamayo, U.A. No. 101, Coronel Zapata; Peru (without other data), U.A. Nos. 149, 153, 175.

In the two males the ventrals are 145 and 129; the caudals missing and 49, respectively. In the two females the ventrals are 137 and 148; the caudals 43 and missing, respectively. This series agrees with the species as redescribed by Boulenger (1896, p. 215), but the lack of differentiation of the sexes in ventrals and caudals leaves much to be explained. It appears evident that *melanocephala* is a composite form.

Micrurus balzani Boulenger

Elaps balzani Boulenger, Ann. Mus. Civ. Genova, (2), 19, p. 130, 1898—Yungas, Bolivia.

Micrurus balzani Schmidt, Field Mus. Nat. Hist., Zool. Ser., 20, p. 192, 1936.

A single male specimen, U.A. No. 82, without data, is referred to *balzani*, with which it agrees in style of coloration (black, yellow, and red rings not in triads) and in having a single postocular on each side. The ventrals number 196, caudals 45. The lower labials are reduced to six on each side by fusion of the normal fifth and sixth. This specimen, presumably from the Madre de Dios region, is not unreasonably distant from the hitherto known Bolivian range of *balzani*.

Micrurus hemprichii Jan

Elaps hemprichii Jan, Rev. Mag. Zool., 1858, p. 523, 1858—Colombia.

Micrurus hemprichii Amaral, Proc. U. S. Nat. Mus., 67, Art. 24, p. 17, 1925.

A single female specimen, U.A. No. 171, is from Peru, without further data. It has ventrals 185, anal plate entire, caudals 25; triads of black rings $6 + \frac{2}{3}$;¹ total length 466, tail 36.

Micrurus langsdorffi Wagler

Micrurus langsdorffi Wagler, in Spix, Serp. Bras., p. 10, pl. 2, fig. 2, 1824—Rio Japura, Amazonas.

¹The black rings, when arranged in threes, are counted as "triads," and fractions of triads, on body + tail.

A single specimen, U.A. No. 59, from the Madre de Dios region, a female, has ventrals 211, caudals 34, and 41 + 5 subequal complete black rings separated by narrow white annuli. Alternation in width of the black rings can be traced on parts of the body. It thus corresponds to *annellatus*, which the senior author has combined with *langsdorffi* (1936, p. 191).

A female specimen, U.A. No. 9, without data, is referable to this species. It has ventrals 217, caudals 31, and 21 + 7 black rings on body and tail. The black rings on the body are separated by slightly longer red zones in which the scales are heavily black-pigmented.

A specimen in the American Museum of Natural History, recorded as from Juliaca, Peru, has been examined by the senior author. Like the mammals described from Juliaca by J. A. Allen, this specimen undoubtedly came from the "Inca Mines" and thus constitutes another record from the Department of Madre de Dios.

Micrurus lemniscatus Linnaeus

Coluber lemniscatus Linnaeus, Syst. Nat., p. 274, 1758—Asia, in error.

Micrurus lemniscatus Beebe, Zoologica, 2, p. 216, 1919.

A single female specimen, U.A. No. 163, with no data, agrees well with the usual diagnosis of this species. Ventrals 228, caudals 33, black triads 9 + 1 $\frac{1}{3}$, total length 340, tail 31.

We suggest the restricted type locality for this species as Belém, Pará, Brazil.

Micrurus spixii obscura Jan

Elaps corallinus var. *obscura* Jan, Icon. Gén. Ophidiens, 41, pl. 6, fig. 3, 1872
—Lima, in error.

The junior author, in the course of preparation of a list of the Peruvian snakes, finds that all of the Peruvian specimens examined agree with Jan's excellent figure of *obscura*, differing from *spixii spixii* in having an elongate black mark on the neck. This is apparently the middle black ring of the first triad of black rings. Traces of the first ring may be represented by black spots on the parietals and corresponding black spots on the gular region.

The University of Arequipa specimens, Nos. 91, 156, and 162, all without specific locality, are clearly *obscura* by this definition; the single male has ventrals 227, caudals 20, and triads $\frac{2}{3}$, 6 $\frac{2}{3}$ + $\frac{2}{3}$. The two female specimens have ventrals 222 and 223, caudals 22 and 21, and triads $\frac{2}{3}$, 5 $\frac{2}{3}$ + $\frac{2}{3}$, and $\frac{2}{3}$, 7 + $\frac{2}{3}$. The type locality for *obscura* may be corrected and restricted to eastern Peru.

Micrurus surinamensis Cuvier

Elaps surinamensis Cuvier, Regne Animal, 2, p. 84, 1817—Surinam.

Micrurus surinamensis Beebe, Zoologica, 2, p. 216, 1919.

A single male specimen, U.A. No. 131, collected in Madre de Dios by Sr. Valdivia. The ventrals number 166, caudals 33 + (tip of tail missing), total length 837, tail 97.

Trimeresurus atrox Linnaeus

Coluber atrox Linnaeus, Syst. Nat., p. 22, 1758—Asia, in error.

Trimeresurus atrox Schmidt and Andrews, Field Mus. Nat. Hist., Zool. Ser., 20, p. 182, 1936.

A single male specimen, U.A. No. 94 (without data), from Escomel Collection, has 194 ventrals and 73 caudals. In a female specimen from Madre de Dios, U.A. No. 66, ventrals and caudals are 193 and 71; another female specimen, No. 102, from Chanchamayo, has these scutes 202 and 65; and two female specimens, U.A. Nos. 147 and 151 (without data) have respectively 198 + 57, and 193 + 54. There is considerable variation in the color pattern among these five specimens, apparently all within the possible range of *atrox*.

The type locality for this form may be corrected and restricted to Surinam.

Trimeresurus microphthalmus Cope

Bothrops microphthalmus Cope, Journ. Acad. Nat. Sci. Phila., (2), 8, p. 182, 1876—between Balsapuerto and Moyobamba, Peru.

A male specimen, U.A. No. 67, from Madre de Dios, collected by Sr. Juan Perea, may be referred tentatively to *microphthalmus*. It seems not unlikely that the specimen in question may represent a new form. We reserve opinion on this matter pending examination of further material.

Trimeresurus pictus Tschudi

Lachesis picta Tschudi, Fauna Peruana, Herp., p. 61, pl. 10, 1845—higher montaña of Peru.

A single female specimen, U.A. No. 7, from the Valle de Majes, collected by Sr. Romano. Like the specimen of *microphthalmus* mentioned above, the single specimen available is insufficient basis for the description of a new form. We suspect that the population of *picta* in the Majes Valley may well be distinguishable from that of central Peru.

Crotalus durissus terrificus Laurenti

Caudisona terrifica Laurenti, Syst. Rept., p. 93, 1768—America, below lat. 45.

Crotalus durissus terrificus Klauber, Trans. San Diego Soc. Nat. Hist., 8, p. 190, 1936.

A single female specimen, U.A. No. 14, from the Selvas de Sandia, collected by Alberto Zimmermann, has 176 ventrals, anal divided, and 22 caudals. Gloyd (1940, p. 137) mentions no record of the rattlesnake from Peru except that of Tschudi (1845, p. 63), who ascribes it to the "montaña" of northern Peru, but apparently without a specimen. The junior author has heard reports of it from the Huánuco region.

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